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ABSTRACT

The validity of the assumption that those documents which are requested from a University of California (UC) library by the California State University and Colleges (CSUC) campuses through interlibrary loan are the "low use" items, according to the in-house circulation statistics of the lending institution, was tested. This was one of the assumptions from the California State Audits Division analysis of the opportunities for increasing the UC-CSUC library cooperation. In this study, however, approximately 57 percent of the CSUC requested material had "high use" status on the UCB home campus. (Author/PF)

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ABSTRACT

The validity of the assumption: that those documents which are requested from a University of California (UC) library by the California State University and Colleges (CSUC) campuses through inter-library Loan are the "low use" items, according to the in-house circulation statistics of the lending institution, was tested. This was one of the assumptions from the California State Audits Division analysis of the opportunities for increasing UC-CSUC library cooperation. However, approximately 57% of the CSUC requested material had "high use" status on the UCB home campus.

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I. INTRODUCTION

The purpose of this project was to test the validity of the following assumption from the Auditors' report concerning cooperation among the California public academic libraries: that those documents which are requested from a University of California (UC) library by the California State University Campuses (USUC) through inter-library loan (ILL) are "low use" items, according to the in-house circulation statistics of the lending institution. For example, it is assumed that most of the ILL requests from CSUC Sacramento to the University of California at Berkeley (UCB) would be for items which are of "low use" or "no use" at UCB.[1]

The Auditors' report which appeared in final form in June 1973 is the by-product of the continuing study of the California Public Academic Libraries by the State Department of Finance.[2] In the original draft, dated November 1972, an intercampus cooperative model for acquisitions and lending was presented. The model was based upon many assumptions, not all of which were supported by empirical evidence. Following the appearance of the draft, several investigators attempted to test the validity of some of the assumptions. The project reported here is one such study. This study was done as part of the Design Seminar conducted by Professors R. Swank, M. Cooper, and C. Bourne in the University of California, Berkeley School of Librarianship. Additional support was provided by the Institute of Library Research.

The project conducted by the Audits Division focused on an analysis of opportunities for increasing inter-institutional (UC-CSUC) library cooperation. Briefly, the proposed model in the auditors' report would include northern-based and southern-based lending centers, probably based around UCB and UCLA. These university libraries and others within the system would be responsible for collecting not only the "high use" material as they had been doing in the past, but would also collect "low use" material in prescribed subject areas. The California State University libraries would acquire the necessary "high use" material for their specific curricula, but would borrow "low use" material from these lending centers.

According to the model, not only would the material requested through ILL be of "low use" status according to the borrowing institution, but it would also have such status at the lending institution. Thus, the in-house patrons of the lending institution would not be seriously inconvenienced by the cooperative ILL system.

The Auditors based their model upon the results of a survey of the circulation of monographs and monographic series within 11 of the 19 CSUC campuses. Approximately 34% of the materials could be classified as "no use" items within each campus; hence, these documents would be available to outside institutions for additional use without inconvenience

to the home campus borrowers. The auditors' survey only pertained to the circulation of documents within each home campus; it did not include the circulation statistics for these items when they were loaned to other institutions. An estimate for non-recorded in-house use was made and the use statistics were adjusted to describe both recorded and non-recorded use. Cooperation, it was suggested, would be possible because of this differential in usage. The "Report" also ascertained that 33% of the total collection within an institution supports 80% of the total volume of material used.

A survey of the literature in the library field by this author revealed no documented accounts of a validation of the assumption that ILL requests are for "low use" materials at the lending institution. However, the Kurth survey of the ILL operation at the National Library of Medicine (NLM) revealed some statistics which, though related to the circulation of serials, appear relevant to this project;[3] namely:

1) Some 88% of the holdings of the NLM did not circulate in a one-year period.

2) 3.7% of the "titles used" accounted for 38.8% of the loans; however, this category of "titles used" represented only 0.40% of the total collection.

The Kurth findings support the conclusions of the Auditors' report, as well as of other studies, that the usage of library materials follows a Bradford distribution. This frequency distribution law claims that compared to the few documents with a high readership, there are many documents with a smaller readership pool, and far more items engendering even less reader interest.

3) The top 25 journals ranked according to frequency of request were compared to their positions in an earlier NLM survey, as well as in four other institutional studies. It was found that only four titles were common to all five lists using this rank limit of the top 25 positions.

Thus, it seems that the usage status for a single serial title may well vary from year to year, as well as from institution to institution. Hence, a "high request" item at one institution may be a "low request" item at another institution; and, this status may change from year to year. This study did not determine whether the serials were also of "high use" or "low use" at the home library.

II. THE PROJECT

This study was conducted at the University of California at Berkeley, the lending institution. A minimum of ILL restrictions are imposed relative to the availability of UCB materials to the other California academic campuses. Usually documents on reserve, rare materials, and reference materials do not circulate. However, photoduplication of material is available for a fee. The borrowers were 17 of the 19 California State University Campuses. Two of the CSU campuses, one at San Francisco and the other at Hayward, are within a 50 mile radius of UCB, and hence, utilize direct borrowing privileges; hence, they are not included in this ILL service.

The ILL records of transactions for loans made by UCB during 1971-72 to the 17 CSUC campuses were examined. A stratified random sample of 400 filled ILL requests was drawn from the ILL files located at the Berkeley campus. This sample size is adequate (according to Cochran) for an $\alpha = 0.05$ and a confidence interval width of 0.05.[4]

The total sample was drawn in the following manner. The numbers of filled requests for monographs and monograph series was tabulated for each of the 17 CSUC campuses. The total number of such filled requests for all the institutions was 1,252. For each campus, the percentage of filled requests to the total filled requests was computed; e.g., CSUC Long Beach had 43 filled requests out of the total of 1252 requests. $43 \div 1252 = 3.4\%$. Each institution's percentage of filled requests was distributed proportionally over the sample size total of 400 to ascertain the sample required for each school; e.g., Long Beach: $3.4\% \times 400 = 13$ samples. Thus, a sample size of 13 titles was drawn from the CSUCLB ILL request file, using a random number table. This process was repeated for each of the other schools.

Only filled requests for monographs and monographic series which circulated both at UCB and in the ILL system were considered in this study. The Auditors' report also was concerned with this type of material. The parameters of the categories of "high use" and "low use" were determined by the algorithm of "use status," as prescribed in the 1972 Auditors' report (See Figure 1.). This algorithm was modified for the final version of the report.[2] The ILL file time period in this study was from July 1, 1971, to June 30, 1972. ILL records are kept only for the previous year and the current fiscal year. This pocject was undertaken during February through May 1973 of the 1972-73 fiscal year; hence, the 1971-72 files, were used.

After the stratified random sample of 400 titles was identified from the ILL files, it was necessary to locate these items at UCB to examine the "use status," as recorded on the slip at the bank of each book. Many of these titles were found only in the branch libraries at UCB. Hence, searching was a time-consuming task which required two

months. Table 1 gives the locations of the retrieved materials.

Table 1

Location of Retrived Monographs and Monograph Series

Graduate Library (Doe, Main Library)	221 Documents
Undergraduate Library (Moffitt)	5
Branch Libraries	80
Richmond Storage	69
Total Retrieved Documents	375

Doe library (the Main Graduate Library), the Moffitt Undergraduate Library, and most of the various branch libraries are all located within the campus confines and within walking distance of each other. However, the Richmond Service - Storage Facility which is managed by the UCB General Library, is located in Richmond, California. The facility serves as the repository for the permanent (yet flexible) storage of unique copies of some of the "low use" and "no use" library materials.

The "use status" of most items was readily ascertained from the book slips upon which the checkout and return dates are recorded. Unfortunately, when a book slip is used up, it is torn off, thus making it difficult to ascertain accurately the circulation history of the book. Therefore, in less than 5% of the cases the "use status" was subjectively made, based upon evidence of torn out slips. The "use status" of a book which has been recently rebound with a new slip pasted in the back of the book was also difficult to determine. Such a book may have been wrongly judged "low use." In this study only circulation figures for recorded "in-house use" were counted; ILL circulation figures were not included.

Two categories of "use status" ("high use" and "low use") were employed to allow the use of the binomial distribution in the statistical analysis. The "low use" category, however, included not only the "low use" items, but also the "no use" material and the documents stored at Richmond. There may be some question about the propriety of designating these Richmond materials as "low use" because these items were not personally examined by this author. Although allegedly "low use" materials are stored in Richmond, this is a subjective decision which may not coincide with the parameters of the Auditors' algorithm. In addition, because of the shortage of shelf space at UCB, part of the collection is stored at Richmond, regardless of the circulation figures; e.g. the undersized books and the temporary cataloged foreign and miscellaneous materials are also stored there.

Because of the necessity of making subjective judgements for some of the titles and the blanket judgement of "low use" imposed upon the Richmond items, it is possible that the number of titles declared "low

use" in this project may be higher than the real situation. Also the "use status" of the missing items is not available, therefore many of these could be in the "high use" category. Hence, the potential inconvenience to the UCB on-campus patrons may be greater than the statistics of this project reveal.

III. Results

Table 2 presents a tabulation of the ILL requests from each of the 17 campuses, relative to the use status of the documents. Table 3 reveals the use status of the books which fulfilled the ILL requests. If one compares the perecentage of "high use" books in Tables 2 and 3, a difference in figures will be noticed (i.e., 53.5% in Table 2, and 57% in Table 3) because the percentages in Table 2 reflect the total number of requests, while those in Table 3 refer only to the filled requests.

An analysis was performed to determine if the difference between the "high use" and "low use" categories was statistically significant. The procedure followed, according to Marascuillo, was appropriate for a one sample binomical case with $\alpha = .05$. [5] The difference was statistically significant:

$$z = 2.6 > 1.96$$

A 95% confidence interval for the "high use" category was established:

$$P\ (.52 < \text{high} < .62) = .95$$

Therefore, 52% to 62% of the filled ILL requests for monographs and monographic series from the state campuses to UCB, the lending institution, are for materials in "high use" at UCB.

Figure 2 presents the number and percentage of requests relative to the date of publication. 1.5% of the items requested were published during the 1700's. 17.75% were published in the 1800's. 80.75% of the requested documents have a publication date in the 1900's. 57.5% of the requests were for material published in the 1930's and later. While there is evidence of more requests for "recent" material, people are, by no means, ignoring the "older" items.

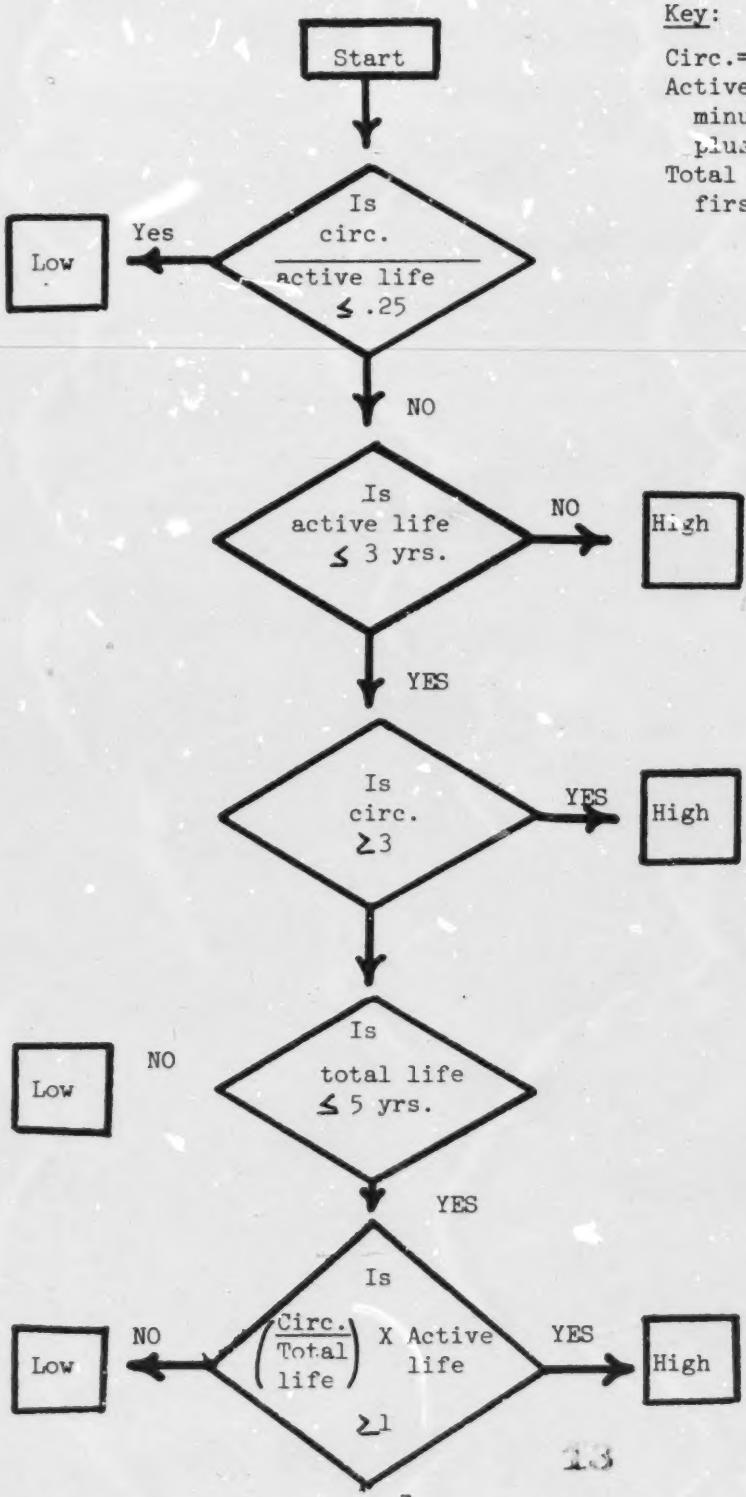
IV. CONCLUSION

One cannot make a blanket assumption that the ILL system does not inconvenience the lending campus users. Approximately 57% of the material requested by the CSUC libraries from UCB, the lending institution, had "high use" status on the UCB campus. In addition, the number of people waiting (inconvenienced) for a specific item which was on ILL is not known.

Duplication of this study for other institutions and other years is recommended. Kurth's findings indicated that the use status of a specific title may vary from year to year and from institution to institution. Hence caution is warranted in extrapolating these results to other institutions.

Figure 1

Book Classification Algorithm



Key:

Circ.=all recorded circulations
Active Life=Yr. of last circ. minus year of first circ., plus one.
Total Life=1972 minus year of first circulation, plus one

Table 2

The Use Status of the Filled ILL Requests from the State Universities

CSUC Campus	Total	High	Low	No	Richmond	Missing*
San Diego	64	37	10	3	11	3
San Jose	58	27	12	2	13	4
Sacramento	54	29	5	2	15	3
Fresno	34	21	8	1	2	2
Humboldt	30	17	6	1	5	1
Chico	28	17	5	2	4	0
Fullerton	28	12	11	1	2	2
Sonoma	26	15	4	1	3	3
Stanislaus	18	10	0	0	5	3
Los Angeles	16	8	1	1	4	2
Long Beach	13	7	4	2	0	0
San Fernando Valley	12	6	2	2	1	1
San Bernardino	7	3	1	0	3	0
San Luis Obispo	6	3	2	0	0	1
Pomona	3	2	1	0	0	0
Bakersfield	2	0	1	0	1	0
Dominguez Hills	1	0	1	0	0	0
Total	400	214	74	18	69	25
Percent of Total	100%	53.5%	18.5%	4.5%	17.25%	6.25%

* These documents remained unretrieved as of May 1973.

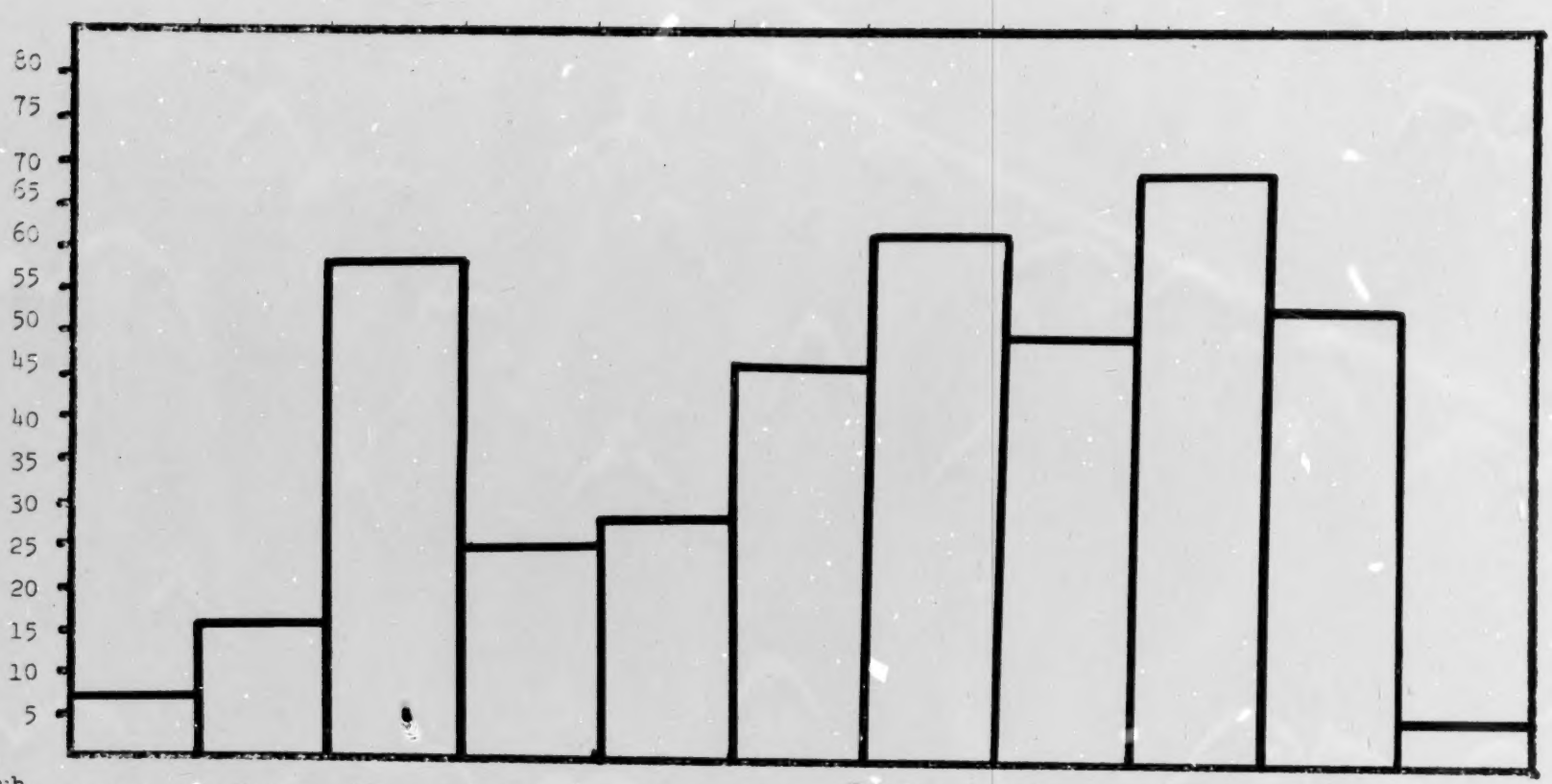
Table 3

The Use Status of the Filled ILL Requests

		Number of Documents	Percentage on total located items
HIGH		214	57
LOW		161	43
	LOW 74		
	NO 18		
	RICHMOND 69		
TOTAL LOCATED		375	100
MISSING		25	
TOTAL SAMPLE		400	

Figure 2

Number of Requests per Date of Publication of Monographs and Monographic Series



Pub. Date	1700s	1800-1849	1850-1899	1900-1909	1910-1919	1920-1929	1930-1939	1940-1949	1950-1959	1960-1969	1970-
% of Total	1.5%	3.5%	14.25%	6.0%	6.2.	11.0%	14.7%	12.0%	16.0%	13.75%	1.0%

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RECENT ILR PUBLICATIONS

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